VALUE RELEVANCE OF NONFINANCIAL INFORMATION DISCLOSED IN ANNUAL REPORTS DURING THE GLOBAL FINANCIAL CRISIS
Evidence from Vietnamese public enterprises

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Abstract

The ability of financial information to adequately reflect a firm's value is increasingly being questioned, especially in context where intangible assets, intellectual capital, innovation are key value drivers. Moreover, nonfinancial information is recommended integrating into accounting and reporting system to provide the business owners and management to evaluate performance in turbulent business environment. The purpose of this paper is therefore to empirically investigate the incremental value relevance of voluntary nonfinancial information in annual reports. This study also extends the previous research by testing the relative relevance of nonfinancial information and changes therein between the 2008-2009 global financial crisis as well as the post-crisis period focusing on a single East Asian country, not cross-country examination. 750 observations coming from 125 Vietnamese public enterprises were used to conduct least square regressions with balanced panel data. The findings also indicate that nonfinancial information has relative and incremental value to book values, earnings and cash flow from operating activities in the Vietnamese stock market. It is also discovered the difference between industries in the provision of nonfinancial information related to the perspective of investors and employees. In particularly, the value relevance of nonfinancial information has risen during the global financial crisis compared to the post-crisis period. Once again, the results of this research confirm the usefulness of nonfinancial information at the periods when financial data is bias.

Keyword: *Nonfinancial information, Value relevance, Global financial crisis, Vietnamese public enterprises, Voluntary disclosure*

INTRODUCTION

Worldwide competitive pressures; deregulation and advances in information and manufacturing technology have changed the nature of our economy and caused many manufacturing and services industries to dramatically change the way in which they operate (Hasen & Mowen, 2012). These changes, in turn, have challenged traditional accounting practices focusing on financial information. On the perspective of management, Kaplan and Norton (2001) highlighted the failure of financial performance information to reflect changes in the competitive circumstances and strategies of modern organizations, e.g. giving little view of future performance and encouraging short termism. On the perspective of investors, some researchers argue that, with the emergence of the knowledge-based and innovation-driven era, financial information is irrelevant because it fails to capture the economic value of investment in intangible assets. This inability is argued to increase information asymmetry and, thus, cause an impairment of the efficient allocation of resources on the stock market (Arvidsson, 2011). On the aspect of reporting, the needs of users of business reports were no longer thought to be satisfied with conventional business reports including balance sheet, income statement, cash flow statement, and statement of

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changes in owners' equity. Users were looking for leading, instead of lagging, indicators of performance (Per & Niklas, 2006). The requested leading information was contextual: what is relevant for one firm might not be applicable for other firms. Because of the contextual nature of the information now required to satisfy users' needs, this information cannot easily be mandated. The inevitable question is, therefore, whether companies can be trusted to identify and disclose critical information to the market. The hope then for increased value relevance of business reporting is that firms themselves identify which information is relevant for the users of its reports and disclose this information voluntarily. Taking into these issues into consideration, over the last few years, nonfinancial information reporting has attracted a great deal of public interest because it ensures fairness, transparency, accountability and maintains relationship of a company to its stakeholders. Hence, there are studies assessing the usefulness of nonfinancial information by testing the valuation relevance of the nonfinancial information items. However, this study extends the literature in two important parts. Firstly, this is the first known study examining the role of nonfinancial information in the condition of financial crisis when financial information is not neutral and reliable for decision making. Secondly, while most of the early studies examining the valuation relevance of nonfinancial information, this study tests the incremental value relevance by comparing the value relevance of financial information and nonfinancial information.

LITERATURE REVIEW AND RESEARCH QUESTIONS

On the stock market, the presence of information asymmetry risks causing an impairment of the efficient allocation of resources. Thus, to reduce information asymmetry and, thereby, mitigate agency problems a company can choose to disclose voluntary information that exceeds mandatory disclosure regulations (Wyatt, 2008). Current trends, financial analysts and investors have been observed to rely on information beyond the financial statements that is nonfinancial information to judge firm value. One apparent characteristic of this information is that it is unsuitable for standardization. Although the form of these disclosures can be standardized, the substance of the disclosure is not easily standardized (Per & Niklas, 2006). Therefore, it raises the question whether voluntary nonfinancial information is relevant for users of annual reports. To answer this question, value relevance studies provide some insights on this concern. If information is used by investors to value company, it is inferred that information is relevant either directly or indirectly in a confirmative sense for valuing the company. The usefulness for users in their decision making is performed by the statistical association with share price. This means that the statistical association with share price also suggests that the information is reliable to be value relevant (Orens & Lybaert, 2010; Wyatt, 2008). Capturing the essence of the above discussions, the first question research is:

Q1: Does nonfinancial information disclosed in annual report have relative value relevance for investors' decisions?

There are many studies focusing on the association between nonfinancial information and financial measures (Arvidsson, 2011; Orens & Lybaert, 2010; Wyatt, 2008). These studies posit that because of the positive association, the disclosure of nonfinancial information is important to investors and creditors. In accounting literature, there is a debate on whether financial information such as earnings, cash flow contains superior value relevant information than nonfinancial information. Traditionally, the information items included in financial statements are universal and standardized in that they are applicable for all firms

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and more relevant for users of each firm report. One school of thought argues that earnings, cash flow rather than nonfinancial information is the primary source of information used in determining share prices. Lev (1989) contends that cash flow measurement is the most useful information because it enables the company to survive, it is not biased by measurement discretions and errors. Clearly, there is some evidence to advocate or to debate the role of nonfinancial information for users. Therefore, the added value of nonfinancial information in support to financial information to make decisions is challenged in the second research question.

Q2: Does nonfinancial information have value relevance incremental to earnings and cash flow from operating activities?

Prior studies suggest that the value relevance of cash flow and earnings differs based on different circumstances such as economic conditions and quality of measurement. Reported earnings may contain temporary elements during the financial global crisis in the forms of assets write-downs and impairments rendering a noisy performance measure (Marquardt & Wiedman, 2004). Because most of the firms experience a systematic downturn, managers may be motivated to manage earnings. Hence, financial information may lose its informative content during the global financial crisis. As the paper of Cal and Jones (2004), the fact that value relevance of earnings declines when firms engages in earnings management. On the contrary, nonfinancial information is not subject to managerial manipulations, it is not contaminated by creative accounting and it helps in evaluating the whole picture of one firm, not only financial performance. It can be thus expected that nonfinancial information is superior to financial information (e.g. book value, earnings, cash flow) in explaining the variations in share price during the global financial crisis. Accordingly, the third research question is examined:

Q3: What was the impact of the global financial crisis on the value relevance of nonfinancial information?

Some evidence also indicates that the relative value relevance of nonfinancial information depends on the information content disclosed differently by industry effect. For example, both Raffournier (1995) and Cooke (1999) show that manufacturing companies tend to disclose more than firms from the others. Other evidence of an industry effect comes from Bukh, Nielsen, Gormsen, and Mouritsen (2005) who find that high-tech firms (i.e. IT and telecommunications industries) had the highest innovation information disclosure. An explanation of this finding is that industries differ in information environments and, therefore, the demand and supply of information differ as a function of industry. It is, therefore, the forth research question of nonfinancial information disclosure is associated with industry effect, as follows:

Q4: Are there significantly differences in the provision of nonfinancial information in annual reports by industry effect?

METHODOLOGY

Definition of the global financial crisis and the post-crisis period

Grosse (2010) suggests that the US financial crisis arising from the US sub-prime mortgage crisis during 2007 started to develop into a global financial crisis from 2008. Although Vietnamese financial market reflected little impact of the US mortgage crisis, in this study, the global financial crisis and the post-crisis period are defined in the Vietnamese context based on the movement of interest rate, foreign currency exchange rate and the fluctuation of the Vietnamese Securities Exchange Index (VN-Index). As evidence of this, Vietnamese

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banks' demands on foreign currency successively went up from October 2008 because the capitals were withdrawn by foreign investors when the global financial crisis began to break out. The loan interest rate at Vietnamese banks began to escalate to 27% in the years of 2008 – 2009 when requiring the State bank to control a fever of interest rate (VnEconomy, 2012). The VN-Index was 753.80 on December 29, 2006. It soared up to 921.80 on December 28, 2007. Thereafter, the index significantly declined to 315.62 during December 2008 and 494.77 during December 2009 within 2 years of the crisis period. From 2009 to 2014, the VN-index revealed the signal to recover after the crisis period, however, it has not regained as the pre-crisis period, e.g. only 580.35 and 557.19 for December 2013 and 2014, respectively (Vietstock Web, 2015). Based on these arguments, the years 2008 and 2009 are considered as the financial crisis period in Vietnam, whereas the years 2010 to 2013 are considered as the post-crisis period.

Empirical models

To examine the relative value relevance of nonfinancial information for the research question 1, share price is regressed against firms' book value, earnings and cash flow from operating activities per share as well nonfinancial information (Model 2 and Model 3). If the coefficient of nonfinancial information in Model 2, Model 3 is statistically significant, it implies that nonfinancial information has relative value to explain firm-specified cross-sectional variations in share prices additional to that explained by book value, earnings, cash flow. In order to examine the incremental value relevance of nonfinancial information for the research question 2, three types of tests are conduct, those are: adjusted R square comparison, variable redundant test, Likelihood ratio test. Model 4 is used to formally test the change in the coefficients of financial and nonfinancial information between the global financial crisis and the post-crisis period (research question 3). To examine the impact of the global financial crisis on the value relevance of nonfinancial information, the coefficient of the interaction term GFC*NONFI (β_9) is examined and compared with the changes in the coefficients of GFC*EPS (β_7) and GFC*OCFPS (β_8). Finally, this paper applies ANOVA analysis to evaluate whether or not the difference between the industries in the provision of nonfinancial information on each perspective disclosed.

Model 1:

$$PRICE_{it} = \alpha_{it} + \beta_1 BVPS_{it} + \beta_2 EPS_{it} + \beta_3 OCFPS_{it} + \varepsilon_{it}.$$

Model 2:

$$PRICE_{it} = \alpha_{it} + \beta_1 BVPS_{it} + \beta_2 NONFI_{it} + \varepsilon_{it}.$$

Model 3:

$$PRICE_{it} = \alpha_{it} + \beta_1 BVPS_{it} + \beta_2 EPS_{it} + \beta_3 OCFPS_{it} + \beta_4 NONFI_{it} + \varepsilon_{it}.$$

Model 4:

$$PRICE_{it} = \alpha_{it} + \beta_1 BVPS_{it} + \beta_2 EPS_{it} + \beta_3 OCFPS_{it} + \beta_4 NONFI_{it} + \beta_5 GFC + \beta_6 GFC*BVPS_{it} + \beta_7 GFC*EPS_{it} + \beta_8 GFC*OCFPS_{it} + \beta_9 GFC*NONFI_{it} + \varepsilon_{it}.$$

where:

$PRICE_{it}$ = logarithm of share price at the end of the year.

$BVPS_{it}$ = book value per share at the end of the year.

EPS_{it} = net income per share for the year.

$OCFPS_{it}$ = cash flow from operating activities per share.

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$NONFI_{it}$ = level of nonfinancial information disclosure.

GFC = indicator variable for the global financial crisis, taking the value of 1 for the year 2009 and 2008, and 0 for the year 2010, 2011, 2012, 2013.

Operationalization of the NONFI variable

Each annual report was read from cover to cover to obtain the disclosure score. To determine the extent of nonfinancial information disclosure, the present study uses seven perspectives of nonfinancial information that prior studies consider to be the main critical success factors. Each perspective is constructed of indicators that investors have reported as relevant and that should be disclosed by firms. The list of indicators in this study were adapted from Dorestani (2009), Orens and Lybaert (2010), which are mainly based on Kaplan and Norton (2001). This study uses a method in which all items in each perspective are non-weighted. Criticism has been directed towards weighted scoring approaches because of the subjectivity when setting the weight preferences (Per & Niklas, 2006). According to Per and Niklas (2006), a non-weighted approach is preferred in that it has fewer measurement errors. Thus, disclosure score of each perspective (d_i) can potentially range from zero, for that does not report any item of that perspective, and maximum is 5, for that reports all of them. The following formula to calculate the disclosure level for a specific firm is employed:

$$\text{Disclosure level for a specific firm} = \frac{\sum_{i=1}^{7} d_i}{7}$$

Main study data collection

Financial accounting data and market value data has been collected from the database http://finance.vietstock.vn/. The sample period includes 2008 to 2013. The sample consists of 125 randomly selected firms from 676 public companies listed in Ho Chi Minh and Hanoi Stock Exchange in Vietnam. In short, the final sample for main study consists of a total of 750 firm-year observations. According to Hair, Black, Babin, and Anderson (2010)'s rule of 15 to 20 observations for each predictor variable, the size of 750 samples is thus appropriate to make regression with a balanced panel data.

Table 1: Number of companies and the level of nonfinancial information disclosure categorized by industry

Industry	Number of companies	Mean (NONFI)	Mean level of nonfinancial information disclosure on each perspective						
			Investor	Employee	Customer	Supplier	Internal process	Innovation & Learning	CSR
Real Estate & Construction	26	1.620	2.885	2.603	0.718	0.577	1.487	2.269	0.801
Production	67	1.608	2.993	2.112	1.060	0.326	1.915	1.764	1.090
Energy & Extraction	4	1.613	3.167	1.917	1.250	0.250	1.958	1.583	1.167
Trading & Service	17	1.423	2.784	2.088	1.059	0.127	2.245	0.912	0.745
Finance & Banking	11	2.305	3.500	2.485	2.833	0.061	2.970	2.424	1.864
Total sample	125	1.647	2.992	2.237	1.151	0.325	1.965	1.805	1.053

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DATA ANALYSIS AND DISCUSSION

Selection of Appropriate Regression Approach

Skewness, Kurtosis and Jarque-Bera statistics all suggest that the variables are not normally distributed, except for the share price variable, even after the variables of book value, earnings and cash flow from operating activities are expressed on a per share basis. It is noted that the correlation coefficients are not of high magnitude between any two of the independent variables to cause concern about multicollinearity problems. Once again, the absence of multicollinearity problem is affirmed because of VIF being less than 2.

All theoretical models are tested with three regression approaches: Pooled OLS, FEM (fixed effects model) and REM (random effects model) according to GLS method for panel data processing models to reduce the issue of heteroskedasticity (Table 2). Although the results from the pooled OLS indicate that the explanatory variables are statistically significant with positive estimated coefficients, it also reveals an existence of autocorrelation. Furthermore, the result of the Likelihood test rejects H_0, implying that the FEM model is more suitable than the pooled OLS. After rejecting the pooled OLS model, to choose which of the two models that fixed or random effects model is more precise, the Hausman test is employed. The Hausman statistic tests null hypothesis that random effects model is appropriated for the particular sample compared to the fixed effects model. As shown in the Table 2, the significance level (p-value) of cross-section random is less than 1 percent. Therefore, null hypothesis is unacceptable. In addition, Durbin Watson ratios in the FEM within the range of [1.5; 2.5] reveal an acceptable fit to data without the presence of autocorrelation for three sample groups. All conclude that fixed effects model is better to conduct all estimations with firm-specific effects.

Relative value relevance of nonfinancial information disclosed in annual reports: test of research question 1

To test the relative value relevance of nonfinancial information, the positive association between nonfinancial information and share prices is questioned. Regards with fixed effects model, the coefficients of NONFI (β_2 in Model 2 and β_4 in Model 3) are significantly positive and validated in statistics for all sub-periods. The coefficient of nonfinancial information (β_4) equals 0.054167 in Model 3 which implies that after controlling for the effect of book value, earnings and cash flow, 1 percent increase in the level of nonfinancial information disclosure in the annual report contributes to 0.054167 percent increase in the share price. Further evidence on relative value relevance of nonfinancial information, only book value and nonfinancial information together explain 64.97 percent variation in share prices in majority (R^2 of Model 2 is 64.97 percent for combined sample). This result of question 1 indicates that firms have higher degree of nonfinancial information disclosure, a higher market value of equity per share at the end of the year. The reason is that an important incentive for communicating nonfinancial information is the relevance to actually describe the less tangible values to enhance the stakeholders' understanding of the corporate. Nonfinancial information reporting will affect the stock market in two ways directly and indirectly. It directly affects the stock market by informing investors that a company may have superior performance when reporting nonfinancial information. Indirectly, nonfinancial information reporting requires managers to effort monitoring critical success factors in order to achieve favorable nonfinancial information, which in turn should result in positive market reactions.

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Value relevance of nonfinancial information incremental to book value, earnings and cash flow from operating activities: test of research question 2

As can be seen in Table 3, firstly, the adjusted R^2 for Model 3 is higher than the adjusted R square for Model 1 (excluding NONFI as an independent variable). For instance, for the combined sample, 60.77 percent variation in share price can be explained by book value, earnings and cash flow together (adjusted R^2 of Model 1 = 60.77), whereas 62.49 percent variation in share prices can be explained by book value, earnings, cash flow and nonfinancial information together (adjusted R^2 of Model 3 = 62.49). The increase in the explanatory power (adjusted R^2) in Model 3 over Model 1 and the significant coefficient of nonfinancial information (β_4 in Model 3) suggest that nonfinancial information contain value relevant information incremental to financial information such as book value, earnings, cash flow. Secondly, the test of NONFI variable redundancy in Model 3 is used to assess the importance of NONFI variable for all sub-periods. The result of F-statistic rejects the null hypothesis implying that the coefficient on the NONFI regressor is jointly zero. It means nonfinancial information variable is one of vitally necessary elements to explain the variation of share price. Thirdly, likelihood ratio is used to test for model selection; here, likelihood ratio test compares the log likelihoods of the Model 1 and Model 3 to evaluate whether this difference is statistically significant. As presented in Table 3, the difference is statistically significant, thus the less restrictive model (Model 3) is said to fit the data significantly better than the more restrictive model (Model 1). In other words, adding nonfinancial information as predictor variable results in statistically significant improvement in model fit to increase the explanatory power of the variation in share price.

Impact of the global financial crisis on the value relevance of nonfinancial information: test of research question 3

As reported in Table 3, all F-values of the Chow-structural-break test are significant at 1 percent level indicating the existence of structural breaks in the association of share prices with BVPS, EPS, OCFPS and NONFI between the global financial crisis and the post-crisis period. The coefficient of the interaction term GFC*NONFI (β_9) in Model 4 (Table 4) is 0.044692 for the combined sample. The positive and significant coefficient of GFC*NONFI (β_9) implies that the value relevance of nonfinancial information has risen during the global financial crisis compared to the post-crisis period. It may be noted further that the coefficient of nonfinancial information (β_2) in Model 2 (Table 2) has decreased from 0.255836 during the global financial crisis to 0.145828 during the post-crisis period. Consistently, the explanatory power of nonfinancial information (expressed by adjusted R^2 in Model 2) has also fallen during the post-crisis period compared to the global financial crisis. Of particular note is that the negative and significant coefficient of GFC*EPS (β_7) demonstrates a decrease in value relevance of earnings per share during the global financial crisis. Although Cal and Jones (2004) suggest that earnings has highly relative and incremental information content to explain the variation of share price in the stock market, the result of this study reveals if earnings is less effective in the periods when it is impacted by financial crisis, the role of nonfinancial information will be robust to serve the investors on their decision making.

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Differences in the provision of nonfinancial information in annual reports by industry effect: test of research question 4

Before ANOVA analysis is conduct to answer the forth question, the assumption of the equality of variances for a variable calculated for more groups is checked by Levene's test. The null hypothesis of homogeneity-of-variance is rejected in relation with the variables of each perspective disclosed except for investor and employee perspective. Hence, it is concluded that the assumption of the equality of variances is violated to analyze ANOVA in continuity (Table 5). The results of ANOVA analysis point out industry differences in disclosures of non-financial information as hypothesized in question 4 for disclosure score per industry, only for the investor and employee perspective. Whereas no significant difference is obtained across industries for overall total disclosure via ANOVA analysis, descriptive statistics on Table 1 indicate that the group of financial services and banking industry has the highest level of nonfinancial information disclosure with the mean disclosure score of 2.305 over 5. Although the author has no theory to account for why the financial services and banking should have higher disclosure than the others, the whole financial industry is likely more knowledgeable today (Arvidsson, 2011), thus there is an increasing demand and a "strong interest" like reputation, better company image as management's expectation. Furthermore, Table 1 demonstrates that the mean level of nonfinancial information disclosure on each perspective is less than 2.5, this means information content disclosed outside is fairly limited. Focusing on investor perspective emphasizes that nonfinancial information is concerned also lies in more towards accountability to shareholders. However, the aspect of corporate social responsibility is still ranked as the least focused upon category (Table 1). The outcome of CSR disclosure reveals that Vietnamese management has not focused to communicate this information to demonstrate their behavior to make a social betterment.

CONCLUSION

The findings have important implications for investors, regulators and auditors. The investors may rely on nonfinancial information in determining share prices during a period of macroeconomic uncertainty when information from regulated financial performance is managed and noisy. As evidence of this, (Sidhu and Tan (2011)) examine analysts' forecast error based on financial information between the global financial information and the prior-crisis period and find an increase in the forecast error during the global financial crisis compared to the prior-crisis period. Although analysts and investors may find nonfinancial information useful for stock valuation purposes, it is plausible that these disclosures are influenced by the management discussion. Therefore, it is recommended that regulatory efforts should ensure the reliability and relevance of nonfinancial information disclosed. An implication for policy makers is whether the disclosure of specific valuation relevant nonfinancial information should be voluntary or mandated. And then the question is also raised whether auditors should pay more attention to the quality of their clients' reported nonfinancial information since it is possible nonfinancial information upon which investors primarily rely on during the period of macroeconomic disturbance.

There are several shortcomings in this study which need to be acknowledged. Firstly, a limitation of content analysis in general using a disclosure index as in this study is method subjectivity because this method relies on a researcher's subjectivity in the coding process. Secondly, low disclosure scores of the content analysis in this study inevitably raise concerns over the quality of the disclosure index employed. This indicates that the information items

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in the index are either contextual in that only a few apply to each firm, or that analysts do not find them valuation relevant. Further research is needed on the demand side for nonfinancial information. It would be to investigate to what extent analysts and investors are restricted in their access to valuation relevant information. In addition, aspects of special concern involve recognition, measurement and valuation of nonfinancial information. Important is also that further research focused at this area include both a management and a user perspective. This enables an understanding both of problems and plausible solution with designing the guidelines to communicate nonfinancial information to public

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Table 2: Relative value relevance of nonfinancial information: the global financial crisis and the post-crisis period comparison

	Fixed effects								
	2008 - 2009			2008 – 2013			2010 – 2013		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
CONSTANT	1.075599***	0.718733***	0.870757***	1.058184***	1.007596***	0.973604***	1.043806***	0.814687***	0.767238***
BVPS	-0.00000118	0.00000573	-0.0000071	0.00000095	0.00000146	0.00000075	0.00000026	0.00000110	-0.0000007
EPS	0.000031***		0.0000261***	0.0000124***		0.0000122***	0.0000136***		0.0000149***
OCFPS	0.0000036**		0.00000346*	0.0000018***		0.0000019***	-0.00000169		-0.0000017
NONFI		0.255836***	0.154161***		0.054509***	0.054167**		0.145828***	0.158790***
R^2 (%)	80.71	81.52	81.95	67.42	64.97	68.90	69.77	69.63	72.15
Durbin Watson	2.468254	2.468254	2.468254	1.501536	1.482066	1.495280	1.928030	1.871690	1.897647
Likelihood Ratio	3.793809***	3.033732***	3.860567***	6.877938***	7.536110***	7.184251***	4.403121***	5.601502***	4.881164***
Hausman test	23.832385***	8.521249**	21.612423***	14.219563***	19.464648***	15.341954***	36.386201***	30.668249***	47.647135***

Table 3: Incremental value relevance of nonfinancial information: the global financial crisis and the post-crisis period comparison

Year	Total value relevance			Incremental value relevance					
Fixed effects	Adjusted R^2 BVPS, EPS, OCFPS (Model 1) %	Adjusted R^2 BVPS, NONFI (Model 2) %	Adjusted R^2 BVPS, EPS, OCFPS, NONFI (Model 3) %	Adjusted R^2 Model 3 – Adjusted R^2 Model 1 %	Adjusted R^2 Model 3 – Adjusted R^2 Model 2 %	Adjusted R^2 Model 2 – Adjusted R^2 Model 1 %	EPS, OCFPS versus NONFI	Redundant test NONFI variable in Model 3	Likelihood ratio test (H_0: Model 1 nested in Model 3)
2008 – 2013	60.77	57.88	62.49	1.72	4.61	-2.89	NONFI > EPS & OCFPS	10.138***	3.50**
2008 – 2009	60.64	62.38	62.87	2.23	0.49	1.74	NONFI > EPS & OCFPS	8.329***	16.64***
2010 – 2013	60.77	57.88	62.49	1.72	4.61	-2.89	NONFI > EPS & OCFPS	10.138***	40.95***
Chow test:	-73.368***	-99.443***	-55.575***						

Table 4: Impact of the global financial crisis period on the value relevance of earnings, cash flow and nonfinancial information

Fixed effects (Model 4)	α	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	Adjusted R^2 (%)	Durbin Watson
2008 – 2013	0.80073 ***	-0.0000005	0.000223 ***	0.00000034	0.127520 ***	0.150424 ***	0.000003	-0.000024 ***	0.0000003 ***	0.044692 ***	67.96	1.614277

Table 5: ANOVA analysis of differences in the provision of nonfinancial information by industry effect

	NONFI	INV	EMP	CUS	SUP	INT	INN	CSR
Levene statistic	8.036***	1.009	1.970*	6.065***	32.345***	11.947***	3.830***	6.180***
Sum of Square – Between Groups	34.446***	23.963***	35.909***	220.504***	18.630***	111.230***	142.176***	62.772***

Note: Significant at: *10, **5 and ***1 percent levels.

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